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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/001,256	11/02/2001	Kazuaki Watanabe	U 013698-2	8327

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Ladas & Parry
26 West 61 Street
New York, NY 10023

EXAMINER

SHOSHO, CALLIE E

ART UNIT	PAPER NUMBER
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1714

DATE MAILED: 01/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/001,256

Applicant(s)

WATANABE ET AL

Examiner

Callie E. Shosho

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 November 2003 and 12 November 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-5 and 8-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3,5 and 8-10 is/are rejected.
- 7) ☒ Claim(s) 4 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other:

DETAILED ACTION

1. All outstanding rejections except for those described below are overcome by applicants' amendment filed 11/10/03.

The new grounds of rejection as set forth below are necessitated by applicants' amendment.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 5 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 5, which depends on claim 1, recites "the polymer dispersed by polymer". The scope of the claim is confusing because it is not clear what polymer is being referred to, the first polymer and the second polymer. In light of the amendment to claim 1, it appears that the cited phrase in claim 5 should be rewritten as "the polymer dispersed by the first polymer".

Claim Rejections - 35 USC § 103

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

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5. Claims 1, 3, and 8-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 11217525 in view of Sano et al. (U.S. 5,769,930).

JP 11217525, and English translation of which is included in this office action, discloses ink jet ink comprising water, glycol ether, pigment, dispersant, and polymer emulsion prepared by sulfonating diene-based polymer with sulfonating agent such as sulfuric acid or sulfuric anhydride. The ink is printed using ink jet printer to produce a printed image (abstract and paragraphs 5-6, 9-10, 12, 29-30, 39, and 42). Although there is no disclosure of ink cartridge containing the ink, it is clear that an ink jet printer would inherently contain the ink in an ink cartridge prior to printing.

The difference between JP 11217525 and the present claimed invention is the requirement in the claims of specific penetrating agent.

Sano et al., which is drawn to ink jet ink, disclose the use of penetrating agent that is combination of acetylene glycol and triethylene glycol monobutyl ether (col.8, line 62-col.9, line 4).

In light of the above, it therefore would have been obvious to one of ordinary skill in the art to use combination of acetylene glycol and triethylene glycol monobutyl ether in the ink jet ink of JP 11217525 and thereby arrive at the claimed invention.

6. Claims 1, 3, and 8-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Anton et al. (U.S. 5,912,280) in view of Sano et al. (U.S. 5,769,930).

Anton et al. disclose ink jet ink comprising water, pigment, dispersant, and polymer emulsion obtained from sulfonyl group containing monomers. The ink is printed using ink jet printer to produce a printed image (col.1, line 5, col.2, lines 16-17 and 42, col.3, lines 29-31, col.5, lines 7-9 and 45-53, and col.16, lines 51-52). Although there is no disclosure of ink cartridge containing the ink, it is clear that an ink jet printer would inherently contain the ink in an ink cartridge prior to printing.

The difference between Anton et al. and the present claimed invention is the requirement in the claims of penetrating agent.

Sano et al., which is drawn to ink jet ink, disclose the use of penetrating agent, which is combination of acetylene glycol and triethylene glycol monobutyl ether (col.8, line 62-col.9, line 4).

In light of the above, it therefore would have been obvious to one of ordinary skill in the art to use combination of acetylene glycol and triethylene glycol monobutyl ether in the ink jet ink of Anton et al. and thereby arrive at the claimed invention.

Response to Arguments

7. Applicants' arguments regarding Ichizawa et al. (U.S. 6,368,397), Yui et al. (U.S. 5,977,207), Doi et al. (U.S. 6,378,999), and Yatake et al. (U.S. 6,454,846) have been fully considered but they are moot in view of the discontinuation of these references against the present claims.

8. Applicants' arguments filed 11/10/03 have been fully considered but, with the exception of arguments relating to Ichizawa et al., Yui et al., Doi et al., and Yatake et al., they are not persuasive.

Specifically, applicants argue that JP 11217525 and Anton et al. are not relevant references against the present claims given that there is no disclosure or suggestion in either JP 11217525 or Anton et al. of ultra-penetrating agent which is a combination of compound of presently claimed formula (1) and triethylene glycol monobutyl ether and further given that applicants 1.132 declaration, filed 11/12/03, establishes the criticality of using combination of compound of presently claimed formula (1) and triethylene glycol monobutyl ether.

It is agreed that there is no disclosure in either JP 11217525 or Anton et al. of ultra-penetrating agent as presently claimed which is why each reference is used in combination with Sano et al.

Sano et al. is drawn to ink jet inks and discloses the use of acetylene glycol surfactant identical to that of presently claimed formula (1) (col.7, line 65-col.8, line 24) and triethylene glycol monobutyl ether (col.8, lines 55-57). Further, col.8, line 61-col.9, line 4 disclose that the use of a combination of acetylene glycol surfactant and triethylene glycol monobutyl ether is preferred in order to provide the ink with the necessary penetration capacity.

The declaration filed 11/12/03 compares ink within the scope of the present claims (Ink Set A), i.e. comprising combination of compound of presently claimed formula (1), i.e. acetylene glycol surfactant known under the tradename Surfynol 104, and triethylene glycol monobutyl ether, with ink outside the scope of the present claims (Ink Set G), i.e. comprising diethylene

glycol monobutyl ether only. It is shown that inks of the present invention are superior in terms of cohesion, gloss, fixing ability, bronzing, and ejection stability.

However, it is the examiner's position that the declaration is not successful in establishing unexpected or surprising results over the cited prior art given that Sano et al. already recognize the criticality of using a combination of acetylene glycol surfactant and triethylene glycol monobutyl ether in order to produce ink with the necessary penetrating capacity. Sano et al. disclose that surfactant such as acetylene glycol surfactant, monohydric alcohol, and polyhydric alcohol such as diethylene glycol monobutyl ether and triethylene glycol monobutyl ether can be used, singly or in combination, in the ink but that the combination of acetylene glycol surfactant (Surfynol) and triethylene glycol monobutyl ether is preferred (col.8, line 62-col.9, line 4 and col.19, lines 23-26).

In light of the above, it is the examiner's position that JP 11217525, Anton et al., and Sano et al. remain relevant references against the present claims

Allowable Subject Matter

9. Claim 4 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim 4 would be allowable if re-written in independent form as described above given that there is no disclosure or suggestion in the "closest" prior art JP 11217525 or Anton et al.

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(U.S. 5,912,280) of ink comprising non-diene-based, sulfonyl group containing (co)polymer which is an acryl-based sulfonyl-group containing (co)polymer as required in present claim 4.

JP 11217525 discloses ink comprising sulfonyl group-containing (co)polymer which is present in the form of an emulsion, however, the sulfonyl group-containing (co)polymer is a diene-based, sulfonyl group-containing (co)polymer.

Anton et al. disclose ink comprising non-diene based sulfonyl group-containing (co)polymer which is present in the form of an emulsion, however, there is no disclosure in Anton et al. that the non-diene based sulfonyl group-containing (co)polymer is an acryl-based, sulfonyl group-containing (co)polymer. That is, Anton et al. disclose the use of tetrafluoroethylene emulsion polymer obtained from fluorinated vinyl monomer and sulfonyl-containing monomers of the formula $-\text{CF}_2-\underset{\text{Rf}}{\text{CF}}-\text{SO}_2\text{F}-$. There is no disclosure of acryl-based, sulfonyl group-containing (co)polymer as required in present claim 4.

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period

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will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Callie E. Shosho whose telephone number is 571-272-1123. The examiner can normally be reached on Monday-Friday (6:30-4:00) Alternate Fridays Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on 571-272-1119. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.



Callie E. Shosho
Primary Examiner
Art Unit 1714

CS

1/20/04